AMENDMENT TO THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

1.-14. (canceled)

15. (currently amended) Process for reducing the aldehyde concentration in a mixture comprising cyclohexanone and one or more aldehydes comprising:

oxidizing cyclohexane in a liquid phase with an oxygen containing gas resulting in an oxidation mixture comprising cyclohexane, cyclohexyl hydroperoxide, cyclohexanone end cyclohexanol;

treating the oxidation mixture with a cyclohexyl hydroperoxide decomposing metal salt in the presence of an alkali metal hydroxide such as to effect decomposition of the cyclohexyl hydroperoxide into cyclohexanone and cyclohexanol, resulting in a mixture comprising cyclohexanone, cyclohexanol and cyclohexane;

separating, by a first distillation, cyclohexane from the mixture comprising cyclohexanone, cyclohexanol and cyclohexane to thereby obtain a resulting mixture comprising cyclohexanone and cyclohexanol; and

separating, by a second distillation, low boiling compounds from the resulting mixture comprising cyclohexanone and cyclohexanol to obtain a top product comprising low boiling compounds and a bottom product comprising cyclohexanone, cyclohexanol and high boiling compounds; wherein

the process further comprises reducing the aldehyde concentration in the mixture comprising cyclohexanone and one or more aldehydes by carrying out at least one of the first and second distillations ~~is carried out~~ in a distillation

column in the presence of an alkaline compound, wherein less than 100 weight ppm of water is present in the bottom of the distillation column.

16. (previously presented) Process according to claim 15, wherein the process further comprises feeding said bottom product to another distillation column in which cyclohexanone is distilled off as a top product.

17. (previously presented) Process according to claim 15, wherein the resulting mixture from the first distillation comprises cyclohexanone, cyclohexanol, low boiling compounds and high boiling compounds and wherein the distilling in the second distillation involves separation of low boiling compounds to obtain a top product comprising low boiling compounds and a bottom product comprising cyclohexanone, cyclohexanol and high boiling compounds.

18. (previously presented) Process according to claim 15, wherein the aldehydes are hexanal and/or pentanal.

19. (previously presented) Process according to claim 15, wherein the second distillation column is operated at a top temperature of between 45 and 130 °C and a bottom temperature of between 105 and 190 °C.

20. (previously presented) Process according to claim 15, wherein the process comprises feeding a solution comprising water and the alkaline compound to the distillation column at a level above the bottom of the distillation column.

21. (previously presented) Process according to claim 15, wherein the process comprises feeding the mixture resulting from the decomposition treatment of the liquid phase cyclohexane oxidation to said distillation column and feeding a solution comprising water and the alkaline compound to the distillation column at a level above the bottom of the distillation column.

22. (previously presented) Process according to claim 15, wherein the process comprises feeding the mixture to the distillation column at a level above the bottom of the distillation column and introducing a solution comprising water and the alkaline compound into the mixture prior to said feeding.

23. (previously presented) Process according to claim 15, wherein the alkaline compound is an alkali metal compound.

24. (previously presented) Process according to claim 23, wherein the distillation column is operated with an amount of alkali metal compound such that the concentration of alkali metal in the bottom of the distillation column is higher than 2 weight ppm and lower than 50 weight ppm.

25. (previously presented) Process according to claim 15, wherein the alkaline compound is an alkali metal hydroxide, alkali metal carbonate or alkali metal alkoxide.

26. (previously presented) Process according to claim 15, wherein the alkaline compound is sodium hydroxide or potassium hydroxide.

27. (previously presented) Process according to claim 15, which further comprises feeding the bottom product of the second distillation to a distillation column in which cyclohexanone is distilled off as a top product.

28. (currently amended) Process for reducing the aldehyde concentration in a mixture comprising cyclohexanone and one or more aldehydes, the process comprising:

oxidizing cyclohexane in a liquid phase with an oxygen containing gas in the absence of an oxidation catalyst resulting in an oxidation mixture comprising cyclohexane, cyclohexyl hydroperoxide, cyclohexanone and cyclohexanol;

treating the oxidation mixture with a cyclohexyl hydroperoxide decomposing metal salt in the presence of an alkali metal hydroxide such as to effect decomposition of the cyclohexyl hydroperoxide into cyclohexanone and cyclohexanol to obtain a mixture comprising cyclohexanone and one or more aldehydes; and

reducing the aldehyde concentration in the mixture by distilling the mixture in a distillation column in the presence of an alkaline compound, wherein less than 100 weight ppm of water is present in the bottom of the distillation column.

29. (previously presented) Process according to claim 28, further comprising separating cyclohexane from the mixture prior to distilling.

30. (previously presented) Process according to claim 28, wherein the mixture resulting from the decomposition treatment of the liquid phase cyclohexane oxidation comprises cyclohexanone, cyclohexanol, low boiling compounds and high boiling compounds and wherein said distilling involves separation of low boiling compounds to obtain a top product comprising low boiling compounds and a bottom product comprising cyclohexanone, cyclohexanol and high boiling compounds.

31. (previously presented) Process according to claim 28, wherein the aldehydes are hexanal and/or pentanal.

32. (previously presented) Process according to claim 28, wherein the distillation column is operated at a top temperature of between 45 and 130 °C and a bottom temperature of between 105 and 190 °C.

33. (previously presented) Process according to claim 28, wherein the process comprises feeding a solution comprising water and the alkaline compound to the distillation column at a level above the bottom of the distillation column.

34. (previously presented) Process according to claim 28, wherein the process comprises feeding the mixture resulting from the decomposition treatment of the liquid phase cyclohexane oxidation to said distillation column and feeding a solution comprising water and the alkaline compound to the distillation column at a level above the bottom of the distillation column.

35. (previously presented) Process according to claim 28, wherein the process comprises feeding the mixture to the distillation column at a level above the bottom of the distillation column and introducing a solution comprising water and the alkaline compound into the mixture prior to said feeding.

36. (previously presented) Process according to claim 28, wherein the alkaline compound is an alkali metal compound.

37. (previously presented) Process according to claim 36, wherein the distillation column is operated with an amount of alkali metal compound such that the concentration of alkali metal in the bottom of the distillation column is higher than 2 weight ppm and lower than 50 weight ppm.

38. (previously presented) Process according to claim 28, wherein the alkaline compound is an alkali metal hydroxide, alkali metal carbonate or alkali metal alkoxide.

39. (previously presented) Process according to claim 28, wherein the alkaline compound is sodium hydroxide or potassium hydroxide.

40. (previously presented) Process according to claim 28, which further comprises feeding the bottom product to a distillation column in which cyclohexanone is distilled off as a top product.